

CONTENTS

Abstract	1
1. Introduction	2
2. Geomorphology and Surface Geology	4
3. Geology	6
3. 1. Syenite gneiss group	6
3. 2. Granite gneiss group	8
3. 3. Metabasites	9
3. 4. Acid dyke	10
3. 5. Geologic structure	11
3. 6. Metamorphic history of the basement rocks	11
4. Petrography	12
4. 1. Terminology and techniques	12
4. 2. Two-pyroxene syenite gneiss	12
4. 3. Clinopyroxene syenite gneiss	14
4. 4. Clinopyroxene quartz syenite gneiss	14
4. 5. Granite gneiss	15
4. 6. Migmatite gneiss	16
4. 7. Aplitic granite	17
4. 8. Metabasite	17
4. 9. Acid dyke	17
4. 10. Metamorphic grade	17
5. Gradational Relation from Syenite Gneiss to Granite Gneiss	19
5. 1. Texture and mineral assemblage	19
5. 2. Perthite	20
5. 3. Hornblende and biotite	20
5. 4. Fe/(Fe + Mg) ratio of biotite	21
5. 5. Clinopyroxene	22
5. 6. Colour of biotite and hornblende	24
5. 7. Summary	24
6. Petrochemistry	25
6. 1. NIGGLI plots and origin of the pyroxene syenite gneiss	25
6. 2. Chemical behaviours with respect to granitization	28
6. 3. Discussion on the granitization	29
7. Conclusion	30
Acknowledgements	30
References	32